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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,188	07/09/2001	W. Benjamin Payne		5756

7590                    09/16/2002

Frank C. Price  
13812 Sand-hurst PL  
Santa And, CA 92705

[REDACTED] EXAMINER

FRANK, RODNEY T

ART UNIT	PAPER NUMBER
2856	6

DATE MAILED: 09/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, DC 20231  
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Paper No. 6

## Notice of Non-Compliant Amendment (37 CFR 1.121)

The amendment filed on 9/3/02 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121, as amended on September 8, 2000 (see 65 Fed. Reg. 54603, Sept. 8, 2000, and 1238 O.G. 77, Sept. 19, 2000). In order for the amendment to be compliant, applicant must supply the following omissions or corrections in response to this notice.

THE FOLLOWING ITEMS ARE REQUIRED FOR COMPLIANCE WITH RULE 1.121 (APPLICANT NEED NOT RE-SUBMIT THE ENTIRE AMENDMENT):

- 1. A clean version of the replacement paragraph(s)/section(s) is required. See 37 CFR 1.121(b)(1)(ii).
- 2. A marked-up version of the replacement paragraph(s)/section(s) is required. See 37 CFR 1.121(b)(1)(iii).
- 3. A clean version of the amended claim(s) is required. See 37 CFR 1.121(c)(1)(i).
- 4. A marked-up version of the amended claim(s) is required. See 37 CFR 1.121(c)(1)(ii).

Explanation: See attached - no clean version of claim(s)

(LIE: Please provide specific details for correction to assist the applicant. For example, "the clean version of claim 6 is missing.")

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714 and the USPTO website at <http://www.uspto.gov/web/offices/dcom/olia/pbg/sampleaf.pdf>. A condensed version of a sample amendment format is attached.

- PRELIMINARY AMENDMENT:** Unless applicant supplies the omission or correction to the preliminary amendment in compliance with revised 37 CFR 1.121 noted above within ONE MONTH of the mail date of this letter, examination on the merits may commence without entry of the originally proposed preliminary amendment. This notice is not an action under 35 U.S.C. 132, and this ONE MONTH time limit is not extendable.
- AMENDMENT AFTER NON-FINAL ACTION:** Since the above-mentioned reply appears to be bona fide, applicant is given a TIME PERIOD of ONE MONTH or THIRTY DAYS from the mailing of this notice, whichever is longer, within which to supply the omission or correction noted above in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

Sherry Davis 9/16/02  
Legal Instruments Examiner (LIE)



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#52 (NE)  
8mdd  
SDavis  
9/16/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

5 Applicant: W. B. Payne  
Serial No. 09/900,188  
Filed: 07/09/01  
Group Art: 2856  
Examiner: Hezron Williams/R. T. Frank  
Filed For: Ullage Meter for a Tank of Compressed Gas at Elevated Temperature

**THE HONORABLE COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington D. C.**

August 30, 2002  
Santa Ana, CA

Dear Sir:

15 In response to the office action dated June 6, 2002, we submit the following amendment  
and request for reconsideration.

## IN THE CLAIMS

Please amend the claims as follows:

20 Claim 1. An ullage meter for a container of compressed gas[, comprising] using a color-changing coating on said container outer wall, said coating being formed in distinct areas, each area sensitive to a particular color-changing temperature while said particular temperature prevails, each area having a number imprinted within it, [the] said number being made visible by said color changing, comprising ,  
[the] said number defining the future ullage in said container once it [has] shall have cooled to a  
25 particular temperature.

**Claim 2. Delete**

**Claim 3. Delete**

**New Claim 7** An ullage meter for a container of freshly compressed gas comprising,

an indicating meter sensitive to the temperature of said compressed gas, said meter having

30 means to indicate the future ullage in said container once it has equilibrated to a selected temperature.

## REMARKS

Claim 1 has been amended to place in the preamble the portion of the claim that is not new. It now also better points to the concept that the indications of temperature are only transient - exist only while a given temperature prevails. See line 2, page 2 of the specification.

SCUBA diving has been going on for scores of years. Divers getting their air containers filled have always been concerned about getting good value when they pay for the filling of their

containers and they have always been concerned about how much air they might have for a dive when they leave the container-filling area. A mercury thermometer or a bimetal dial thermometer using a scale such as our invention proposes could have been accomplished many years ago. Color-changing indicators have been available as early as 1966. Yet, with the need 5 present and the means available no others have proposed our invention. Thus, it cannot be dismissed as obvious.

Our invention is a new and useful improvement in the application of color-changing, temperature sensitive pigments by forming into numbers that correspond to various, chosen, future final (ending) temperatures and the resulting change in pressure of gas as the following: 10 percentage of the initial pressure, percentage of the remaining pressure, the resulting pressure, or the drop in pressure when the container cools. This is what our specification and claims say - in other words. Our invention does not measure nor indicate temperature. It indicates future (when the container cools) ullage. It is our stroke of invention to produce a device, though activated by temperature, that indicates in terms of future ullage. We could choose to use a bimetal dial or 15 any other temperature sensitive device and then to arrange for the device to read in terms of future ullage. Our new Claim 7 does not necessarily involve temperature sensitive film or paint.

The examiner's analysis of how Suzuki makes our invention obvious is traversed entirely. In much of his invention Suzuki does time/temperature monitoring; we do not. The examiner cites column 23 lines 11-41 which has no relationship to our invention. These lines describe a 20 process. We do not claim nor disclose a process.

The examiner cites column 17 line 6 through column 20 line 8 of Suzuki. These lines describe reversible temperature indicators such as we would use. However, there are other products on the market such that our device is not dependent upon Suzuki as a source of reversible temperature indicators. We are patenting a new use for surface temperature indicators 25 - not to determine and indicate temperature, but to indicate an important value that is affected by temperature.

As to obviousness, our invention is too many steps removed from surface temperature itself to be obvious. One first has to be aware of the long-felt need for defining ullage in a freshly loaded gas container. Then, one must think of applying Charles' Law, Boyle's concept 30 and the common the gas law to storage containers in order to identify how to begin solving the problem in terms of temperatures created by adiabatic gas compression. None of this thinking has to do with temperature indicators such as Suzuki's, although we do finally implement ur

invention using, in a novel way, devices resembling Suzuki's.

The problem of disappointing gas fills for Scubba divers has long been known. While it has occurred to operators that cooling the gas bottle helps, nobody has thought of a way to let the diver know immediately as he receives his filled bottle what his fill will amount to when he  
5 dives. None of this is taught by Suzuki, nor has anyone applied Suzuki the way we do even though his invention is dated 1989.

The examiner's point on page 3, second paragraph is traversed because "...any new and useful improvement thereof" is patentable according to the patent laws. We improve the inventions of Suzuki and others with the improvement of casting especially selected temperature  
10 sensitive pigments numbers that indicate ullage. The result is useful. Unlike all of the others, our pigments indicate something other than temperature. That something is derived from the sophisticated principles of the gas laws.

We hope this clarification satisfies the examiner and that our claims will be allowed.

15                   Respectfully submitted,  
                        ↓  
                        Frank C. Price  
                        Reg. No. 29,841

A handwritten signature in cursive ink that reads "Frank C. Price". The signature is written in a fluid, flowing style with a vertical line extending downwards from the top of the 'P' in "Price" towards the bottom of the signature.

FRANK CHARLES PRICE

PATENT AGENT

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# TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

		Application Number	09/900,188
		Filing Date	07/09/2001
		First Named Inventor	PAYNE
		Group Art Unit	1856
		Examiner Name	FRANK, R.T.
Total Number of Pages in This Submission	4	Attorney Docket Number	—

## ENCLOSURES (check all that apply)

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## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	FRANK C PRICE
Signature	<i>Frank C Price</i>
Date	

## CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: **8-29-02**

Typed or printed name	FRANK C PRICE
Signature	<i>Frank C Price</i>
Date	8-29-02

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